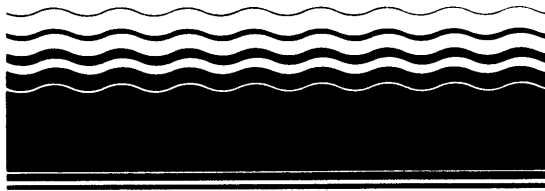




SITE

*SUPERFUND INNOVATIVE
TECHNOLOGY EVALUATION*



Demonstration Bulletin

Solidification/Stabilization Process

Soliditech, Inc.

TECHNOLOGY DESCRIPTION: The Soliditech solidification/stabilization technology mixes hazardous waste materials in soils or sludges with pozzolanic material (cement, fly ash, or kiln dust), a proprietary additive called Urrichem, other proprietary additives, and water. The process is designed to aid in the physical and chemical immobilization of the hazardous waste constituents by binding them in a leach-resistant matrix.

After the contaminated waste material is collected and screened to remove oversized material, it is introduced to a batch mixer. Each waste material is mixed with proprietary chemical reagents and additives, water, and cement. Figure 1 is a schematic of the process.

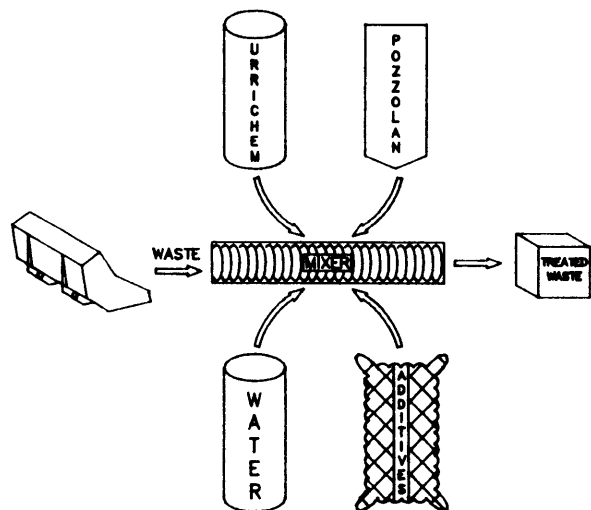


Figure 1. Soliditech process schematic.

Once thoroughly mixed, the treated waste is discharged from the mixer and allowed to harden. The treated waste is a solidified mass with significant unconfined compressive strength, high stability, and a rigid texture similar to concrete. Batch mixers of various capacities are available to treat different volumes of waste.

WASTE APPLICABILITY: This technology is intended for the treatment of soils and sludges contaminated with organic compounds, metals, inorganic compounds, and oil and grease.

DEMONSTRATION RESULTS: The Soliditech process was demonstrated December 5-8, 1988, at the Imperial Oil Company/Champion Chemicals Superfund site in Morganville, New Jersey. In the past, this location contained both chemical processing and oil reclamation facilities.

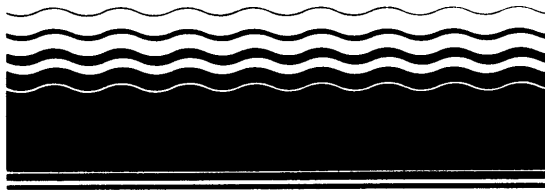
Physical test results of the solidified waste samples were very good. Unconfined compressive strengths ranged from 390 to 860 psi. Wet/dry and freeze/thaw durability test results were excellent, showing no or very little weight loss after 12 cycles. Permeability of the treated waste was very low.

TCLP extraction tests indicated reduced leaching of all metals except those contributed by the cement or other additives (aluminum, calcium, chromium, and sodium). No volatile organic compounds were detected in the TCLP leachates of the treated wastes. Several semivolatile organic compounds (phenols) were detected in the treated wastes that were either not present or present at lower concentrations in the untreated waste. The presence of these compounds has not been explained but may be due to a chemical reaction. Oil and grease was found to leach from the treated waste at the same or at slightly higher concentrations than from the untreated waste. Raw



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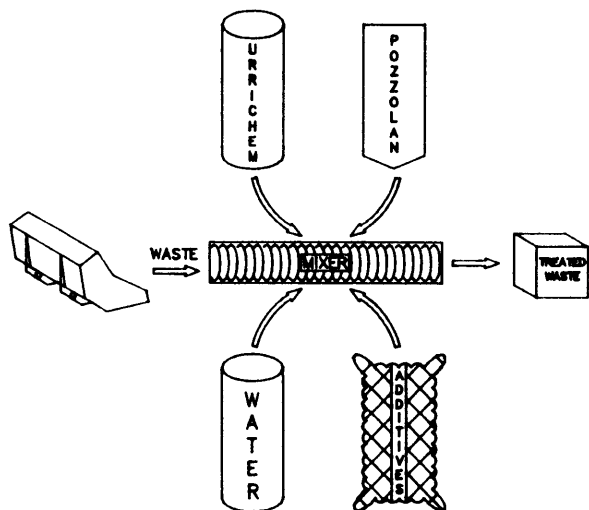


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